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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,292	10/18/2001	Lieven Stuyver	09797.0004-00	4833
22852	7590	04/19/2006		
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP 901 NEW YORK AVENUE, NW WASHINGTON, DC 20001-4413				
			EXAMINER MCINTOSH III, TRAVISS C	
			ART UNIT 1623	PAPER NUMBER

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/045,292	<b>Applicant(s)</b> STUYVER ET AL.	
	<b>Examiner</b> Traviss C. McIntosh	<b>Art Unit</b> 1623	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 October 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-58 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1, 2, and 44, drawn to methods of treating viral infections using compounds of formula Ia, classified in class 514, subclass 49.
- II. Claims 1, 3, and 44, drawn to methods of treating viral infections using compounds of formula Ib, classified in class 514, subclass 45.
- III. Claims 1 and 44, drawn to methods of treating viral infections using compounds of formula Ic, classified in class 514, subclass 43.
- IV. Claims 1, 4, and 44, drawn to methods of treating viral infections using compounds of formula IIa, classified in class 514, subclass 49.
- V. Claims 1, 5, and 44, drawn to methods of treating viral infections using compounds of formula IIb, classified in class 514, subclass 45.
- VI. Claims 1 and 44, drawn to methods of treating viral infections using compounds of formula IIc, classified in class 514, subclass 43.
- VII. Claims 6, 7, and 44, drawn to methods of treating viral infections using compounds of formula Va, classified in class 514, subclass 256.
- VIII. Claims 6 and 44, drawn to methods of treating viral infections using compounds of formula Vb, classified in class 514, subclass 258.1.
- IX. Claims 6 and 44, drawn to methods of treating viral infections using compounds of formula Vc, classified in class 514, subclass 183+.

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- X. Claims 6 and 44, drawn to methods of treating viral infections using compounds of formula VIa where the double bond is between the carbon atoms comprising  $R^2$  and  $R^3$ , classified in class 514, subclass 256.
- XI. Claims 6 and 44, drawn to methods of treating viral infections using compounds of formula VIb where the double bond is between the carbon atoms comprising  $R^2$  and  $R^3$ , classified in class 514, subclass 258.1.
- XII. Claims 6 and 44, drawn to methods of treating viral infections using compounds of formula VIc where the double bond is between the carbon atoms comprising  $R^2$  and  $R^3$ , classified in class 514, subclass 183+.
- XIII. Claims 6, 8, and 44, drawn to methods of treating viral infections using compounds of formula VIa where the double bond is between the carbons comprising  $CH_2OD$  and H, which the examiner believes was intended to be labeled compound VIIa, classified in class 514, subclass 256.
- XIV. Claims 6, 9, and 44, drawn to methods of treating viral infections using compounds of formula VIb where the double bond is between the carbons comprising  $CH_2OD$  and H, which the examiner believes was intended to be labeled compound VIIb, classified in class 514, subclass 258.1.
- XV. Claims 6 and 44, drawn to methods of treating viral infections using compounds of formula VIc where the double bond is between the carbons comprising  $CH_2OD$  and H, which the examiner believes was intended to be labeled compound VIIc, classified in class 514, subclass 183+.

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- XVI. Claims 10, 11, and 44, drawn to methods of treating viral infections using compounds of formula XIa where  $Z^1$  and  $Z^2$  are both either O or S, classified in class 514, subclass 183+.
- XVII. Claims 10 and 44, drawn to methods of treating viral infections using compounds of formula XIa where  $Z^1$  and  $Z^2$  are both  $NR^6$ , classified in class 514, subclass 183+.
- XVIII. Claims 10 and 44, drawn to methods of treating viral infections using compounds of formula XIa where  $Z^1$  and  $Z^2$  are both Se, classified in class 514, subclass 706.
- XIX. Claims 10 and 44, drawn to methods of treating viral infections using compounds of formula XIa where one of  $Z^1$  or  $Z^2$  is O or S, and the other is  $NR^6$ , classified in class 514, subclass 183+.
- XX. Claims 10 and 44, drawn to methods of treating viral infections using compounds of formula XIa where one of  $Z^1$  or  $Z^2$  is O or S, and the other is Se, classified in class 514, subclass 706.
- XXI. Claims 10 and 44, drawn to methods of treating viral infections using compounds of formula XIa where one of  $Z^1$  or  $Z^2$  is  $NR^6$  and the other is Se, classified in class 514, subclass 706.
- XXII. Claims 10, 12, and 44, drawn to methods of treating viral infections using compounds of formula XIb where  $Z^1$  and  $Z^2$  are both either O or S, classified in class 514, subclass 183+.

- XXIII. Claims 10 or 44, drawn to methods of treating viral infections using compounds of formula XIb where  $Z^1$  and  $Z^2$  are both  $NR^6$ , classified in class 514, subclass 183+.
- XXIV. Claims 10 and 44, drawn to methods of treating viral infections using compounds of formula XIb where  $Z^1$  and  $Z^2$  are both Se, classified in class 514, subclass 706.
- XXV. Claims 10 and 44, drawn to methods of treating viral infections using compounds of formula XIb where one of  $Z^1$  or  $Z^2$  is O or S, and the other is  $NR^6$ , classified in class 514, subclass 183+.
- XXVI. Claims 10 and 44, drawn to methods of treating viral infections using compounds of formula XIb where one of  $Z^1$  or  $Z^2$  is O or S, and the other is Se, classified in class 514, subclass 706.
- XXVII. Claims 10 and 44, drawn to methods of treating viral infections using compounds of formula XIb where one of  $Z^1$  or  $Z^2$  is  $NR^6$  and the other is Se, classified in class 514, subclass 706.
- XXVIII. Claims 10 and 44, drawn to methods of treating viral infections using compounds of formula XIc where  $Z^1$  and  $Z^2$  are both either O or S, classified in class 514, subclass 183+.
- XXIX. Claims 10 and 44, drawn to methods of treating viral infections using compounds of formula XIc where  $Z^1$  and  $Z^2$  are both  $NR^6$ , classified in class 514, subclass 183+.
- XXX. Claims 10 and 44, drawn to methods of treating viral infections using compounds of formula XIc where  $Z^1$  and  $Z^2$  are both Se, classified in class 514, subclass 706.

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XXXI. Claims 10 and 44, drawn to methods of treating viral infections using compounds of formula XIc where one of  $Z^1$  or  $Z^2$  is O or S, and the other is  $NR^6$ , classified in class 514, subclass 183+.

XXXII. Claims 10 and 44, drawn to methods of treating viral infections using compounds of formula XIc where one of  $Z^1$  or  $Z^2$  is O or S, and the other is Se, classified in class 514, subclass 706.

XXXIII. Claims 10 and 44, drawn to methods of treating viral infections using compounds of formula XIc where one of  $Z^1$  or  $Z^2$  is  $NR^6$  and the other is Se, classified in class 514, subclass 706.

XXXIV. Claims 13, 14, and 44, drawn to methods of treating viral infections using compounds of formula XIIIa, classified in class 514, subclass 49.

XXXV. Claims 13 and 44, drawn to methods of treating viral infections using compounds of formula XIIIb, classified in class 514, subclass 49.

XXXVI. Claims 13, 15, and 44, drawn to methods of treating viral infections using compounds of formula XIIIc, classified in class 514, subclass 49.

XXXVII. Claims 13, 16, and 44, drawn to methods of treating viral infections using compounds of formula XIId, classified in class 514, subclass 49.

XXXVIII. Claims 17, 18, and 44, drawn to methods of treating viral infections using compounds of formula XIV where  $Z^3$  is O, classified in class 514, subclass 49.

XXXIX. Claims 17, 18, and 44, drawn to methods of treating viral infections using compounds of formula XIV where  $Z^3$  is  $CH_2$ , classified in class 514, subclass 256.



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- XL. Claims 19, 20, and 44, drawn to methods of treating viral infections using compounds of formula XVa where both  $Z^3$ 's are O, classified in class 514, subclass 44.
- XLI. Claims 19 and 44, drawn to methods of treating viral infections using compounds of formula XVa where one  $Z^3$  is O and the other is  $CH_2$ , classified in class 514, subclass 49.
- XLII. Claims 19 and 44, drawn to methods of treating viral infections using compounds of formula XVa where both  $Z^3$ 's are  $CH_2$ , classified in class 514, subclass 256.
- XLIII. Claims 19, 21, and 44, drawn to methods of treating viral infections using compounds of formula XVb where both  $Z^3$ 's are O, classified in class 514, subclass 44.
- XLIV. Claims 19 and 44, drawn to methods of treating viral infections using compounds of formula XVb where one  $Z^3$  is O and the other is  $CH_2$ , classified in class 514, subclass 45.
- XLV. Claims 19 and 44, drawn to methods of treating viral infections using compounds of formula XVb where both  $Z^3$ 's are  $CH_2$ , classified in class 514, subclass 263.1.
- XLVI. Claims 22, 23, and 44, drawn to methods of treating viral infections using compounds of formula XVIa, classified in class 514, subclass 23. It is noted that this group may be subject to further restriction based on the identity of  $Z^4$ ,  $Z^5$ ,  $W^3$ ,  $W^4$ , and  $W^5$ .
- XLVII. Claims 22 and 44, drawn to methods of treating viral infections using compounds of formula XVIb, classified in class 514, subclass 23. It is noted that this group



may be subject to further restriction based on the identity of  $Z^4$ ,  $Z^5$ ,  $W^3$ ,  $W^4$ , and  $W^5$ .

XLVIII. Claims 22, 24, and 44, drawn to methods of treating viral infections using compounds of formula XVIc, classified in class 514, subclass 23. It is noted that this group may be subject to further restriction based on the identity of  $Z^4$ ,  $Z^5$ ,  $W^3$ , and  $W^4$ .

XLIX. Claims 22, 25, and 44, drawn to methods of treating viral infections using compounds of formula XVIId, classified in class 514, subclass 23. It is noted that this group may be subject to further restriction based on the identity of  $Z^4$ ,  $Z^5$ ,  $W^3$ , and  $W^4$ .

L. Claims 22, and 44, drawn to methods of treating viral infections using compounds of formula XVIe, classified in class 514, subclass 23.

LI. Claims 22, 26, and 44, drawn to methods of treating viral infections using compounds of formula XVIIf, classified in class 514, subclass 23.

LII. Claims 27 and 44, drawn to methods of treating viral infections using compounds of formula XVIIa where  $Z^3$  is O, classified in class 514, subclass 49.

LIII. Claims 27 and 44, drawn to methods of treating viral infections using compounds of formula XVIIa where  $Z^3$  is  $\text{CH}_2$ , classified in class 514, subclass 256.

LIV. Claims 27 and 44, drawn to methods of treating viral infections using compounds of formula XVIIb where  $Z^3$  is O, classified in class 514, subclass 45.

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- LV. Claims 27 and 44, drawn to methods of treating viral infections using compounds of formula XVIIb where  $Z^3$  is  $\text{CH}_2$ , classified in class 514, subclass 263.1.
- LVI. Claims 27 and 44, drawn to methods of treating viral infections using compounds of formula XVIIc where  $Z^3$  is O, classified in class 514, subclass 49.
- LVII. Claims 27 and 44, drawn to methods of treating viral infections using compounds of formula XVIIc where  $Z^3$  is  $\text{CH}_2$ , classified in class 514, subclass 256.
- LVIII. Claims 27, 28, and 44, drawn to methods of treating viral infections using compounds of formula XVIIId where  $Z^3$  is O, classified in class 514, subclass 45.
- LIX. Claims 27, 28, and 44, drawn to methods of treating viral infections using compounds of formula XVIIId where  $Z^3$  is  $\text{CH}_2$ , classified in class 514, subclass 263.1.
- LX. Claims 29 and 44, drawn to methods of treating viral infections using compounds of formula XVIIIa, classified in class 514, subclass 49.
- LXI. Claims 29 and 44, drawn to methods of treating viral infections using compounds of formula XVIIIb, classified in class 514, subclass 45.
- LXII. Claims 29 and 22, drawn to methods of treating viral infections using compounds of formula XVIIIc, classified in class 514, subclass 49.
- LXIII. Claims 29 and 44, drawn to methods of treating viral infections using compounds of formula XVIIIId, classified in class 514, subclass 45.
- LXIV. Claims 30 and 45, drawn to methods of treating viral infections using compounds of formula XIX, classified in class 514, subclass 49.

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LXV. Claims 31 and 46, drawn to methods of treating viral infections using compounds as set forth in claims 31 and 46, classified in class 514, subclass 43.

LXVI. Claims 32, 33, 34, 47, 48, and 49, drawn to methods of treating viral infections using compounds of formula XX or XXI, classified in class 514, subclass 49.

LXVII. Claims 35, 36, 50, and 51, drawn to methods of treating viral infections using compounds of formula XXII or as set forth in claims 36 or 51, classified in class 514, subclass 49.

LXVIII. Claims 37, 38, 52, and 53, drawn to methods of treating viral infections using compounds of formula XXIII or as set forth in claims 38 or 53, classified in class 514, subclass 256.

LXIX. Claims 39, 40, 41, 54, 55, and 56, drawn to methods of treating viral infections using compounds as set forth in the claims, classified in class 514, subclass 49.

LXX. Claims 42 and 57, drawn to methods of treating viral infections using compounds as set forth in the claims, classified in class 514, subclass 45.

LXXI. Claims 43 and 58, drawn to methods of treating viral infections using compounds as set forth in the claims, classified in class 514, subclass 49.

The inventions are distinct, each from the other because of the following reasons:

Groups I-LXXI are independent and distinct from each other as they are drawn to methods of treating viruses using compounds which are patentably distinct. It is noted that applicants claim the use of various saccharides containing moieties, non-saccharide containing moieties, bridged saccharides, non-bridged saccharides, compounds which have sugars comprising double bonds, those without, sugars linked via a N to purines and pyrimidines, sugars

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linked via a C to various purines and pyrimidines, compounds with selenium contained in the core, those without, and many more. A reference anticipating or rendering one group would not necessarily be expected to anticipate or render obvious the other groups. Each of groups I-LXXI is directed to or involves the use of compounds which are recognized in the art as being distinct from one another because of their diverse chemical structure, their different chemical properties, modes of action, different effects, and reactive conditions. Additionally, the level of skill in the art is not such that one invention would be obvious over the other, i.e., they are patentable over each other. Chemical structures which are similar are presumed to function similarly, while chemical structures which are not similar are not presumed to function similarly. The presumption even for similar chemical structures though is not irrefutable, but may be overcome by scientific reasoning or evidence showing that the structure of the prior art would not have been expected to function as the structure of the claimed invention. Note that in accordance with the holding of *Application of Papesch*, 50 CCPA 1084, 315 F.2d 381, 137 USPQ 43 (CCPA 1963), and *In re Lulu*, 223 USPQ 1257 (Fed. Cir. 1984), chemical structures are patentably distinct where structures are either not structurally similar, or the prior art fails to suggest a function of a claimed compound would have been expected from a similar structure.

Because these inventions are independent or distinct for the reasons given above and the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper. It would indeed impose an undue burden upon the examiner in charge of this application if the instant restriction requirement is not set forth.

Claims 1-58 are generic to a plurality of disclosed patentably distinct species comprising the use of a plethora of divergent compounds. Applicant is required under 35 U.S.C. 121 to elect

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a single disclosed species, even though this requirement is traversed. By a single species it is meant a single compound. The compound may be named in any of four ways: 1) according to IUPAC standard, 2) by a pictorial representation of the compound, 3) by setting forth the specific chemical group that each variable of the Markush group represents, or 4) by naming a claim or an example which itself sets forth a single compound.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the

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application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Due to the complexity of the instant restriction requirement, no telephone call was made to request an oral election to the above restriction requirement.

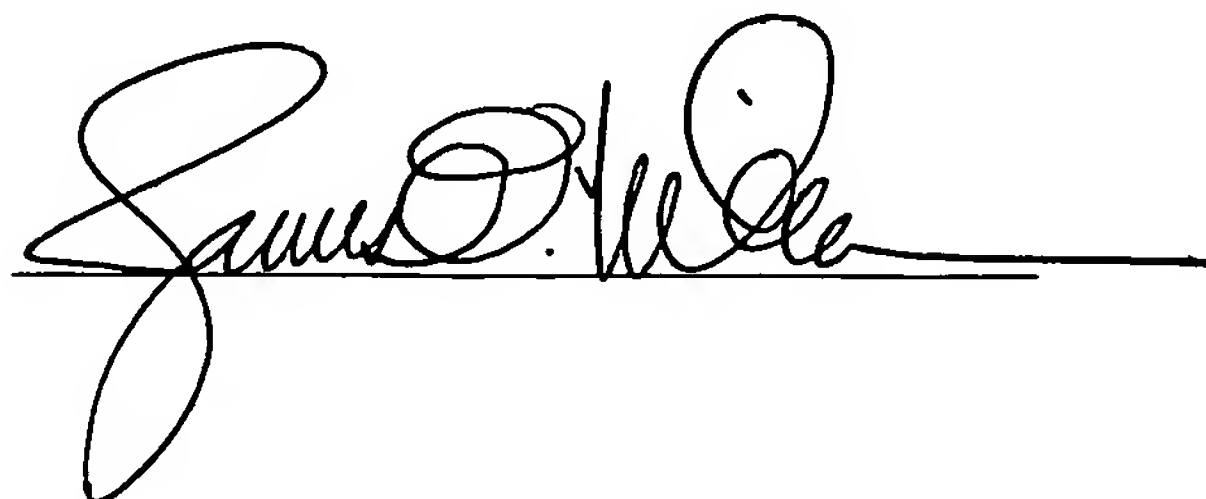
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Traviss C. McIntosh whose telephone number is 571-272-0657. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shaojia A. Jiang can be reached on 571-272-0627. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Traviss C. McIntosh III  
April 5, 2006

James O. Wilson  
Supervisory Patent Examiner  
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A handwritten signature in black ink, appearing to read "James O. Wilson", is written over a horizontal line.